

## ABSTRACT

A system and method for testing sequences of computer-related operations by using subsequences of operations of a given length. The subsequences are used to construct a suite of test cases that reduces the number of testing permutations while satisfying desired testing requirements. A mechanism generates test cases by listing the possible subsequences of a specified length, from which a subsequence is chosen to start a test case, and marked as covered. A selection algorithm may be used to choose a subsequence, such as based on a count of the number of subsequence elements starting still uncovered subsequences. Subsequences are added to the test case until a specified maximum length, with a preference for selecting uncovered subsequences. The process continues adding test cases until no subsequence remains uncovered. The resultant set of test cases is processed based on any specified constraints and preconditions, to produce a final suite of test cases.

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